

EXECUTIVE SUMMARY

The United States (U.S.) Congress has identified and approved the next-generation F-22A air dominance fighter to replace and supplement the increasingly vulnerable F-15C and F-15E aircraft fleets. The Environmental Assessment (EA) analyzes the United States Air Force (Air Force) proposal to locate or beddown the Second F-22A Operational Wing at Elmendorf Air Force Base (AFB).

The proposal is to beddown two F-22A operational squadrons (each consisting of 18 Primary Aircraft Inventory [PAI] and 2 Backup Aircraft Inventory [BAI]) over a period of approximately five years; conduct flying sorties at the base for training and deployment after beddown; construct or remodel facilities and infrastructure to support the F-22A Operational Wing; and implement personnel changes to conform to the F-22A Wing requirements. The two F-22A squadrons would take the place of one squadron of F-15C and one squadron of F-15E aircraft designated to leave Elmendorf AFB. F-22A training flights would take place on Alaskan Military Operations Areas (MOAs), Air Traffic Control Assigned Airspace (ATCAA), Military Training Routes (MTRs), and ranges where F-15C and F-15E aircraft currently train. During training, F-22As would employ defensive countermeasures such as chaff and flares in airspace authorized for their use where F-15C and F-15E aircraft currently do. Munitions would continue to be deployed on approved ranges.

COMMUNITY OUTREACH AND SCOPING HANDOUTS AND INTERAGENCY AND INTERGOVERNMENTAL COORDINATION FOR ENVIRONMENTAL PLANNING (IICEP) LETTERS PROVIDED BY THE AIR FORCE IN LATE 2005 AND EARLY 2006 INCLUDED INFORMATION ON 48 PAI AS THE PROPOSED ACTION. SINCE THAT TIME, THE NUMBER OF AIRCRAFT HAS BEEN MODIFIED TO 36 PAI.

This EA has been prepared in accordance with the National Environmental Policy Act (NEPA) and its implementing regulations and is issued for a 30-day public and agency review and comment period. Comments on the Draft EA are incorporated into this EA. These comments, in addition to the EA analyses, will be considered in decision-making regarding the F-22A beddown proposal.

PURPOSE AND NEED

The F-22A is a 21st century fighter designed to replace and supplement F-15C and F-15E aircraft which can be targeted by enemy air defenses at increasingly greater distances. The F-22A has the stealth, speed, and maneuverability to overcome adversaries and ensure air dominance over any battlefield. The purpose of the Elmendorf AFB F-22A Operational Wing is to locate these advanced assets in the westernmost U.S. to enable the Air Force to achieve rapid worldwide deployment in response to directives of the President and Secretary of Defense. The Operational Wing installation must meet the original selection criteria evaluated in an Environmental Impact Statement (EIS) for the location of the F-22 Initial Operational Wing; meet national needs for location with access to the Pacific Rim; and have the capacity at this time to beddown the Second F-22A Operational Wing.

PROPOSED ACTION AND NO ACTION ALTERNATIVES

Elmendorf AFB is the only remaining base of the six originally evaluated for an F-22A Operational Wing that has the capability to beddown an F-22A Operational Wing at this time. Elmendorf AFB is geographically positioned to support the use of operational F-22A aircraft in meeting national defense objectives.

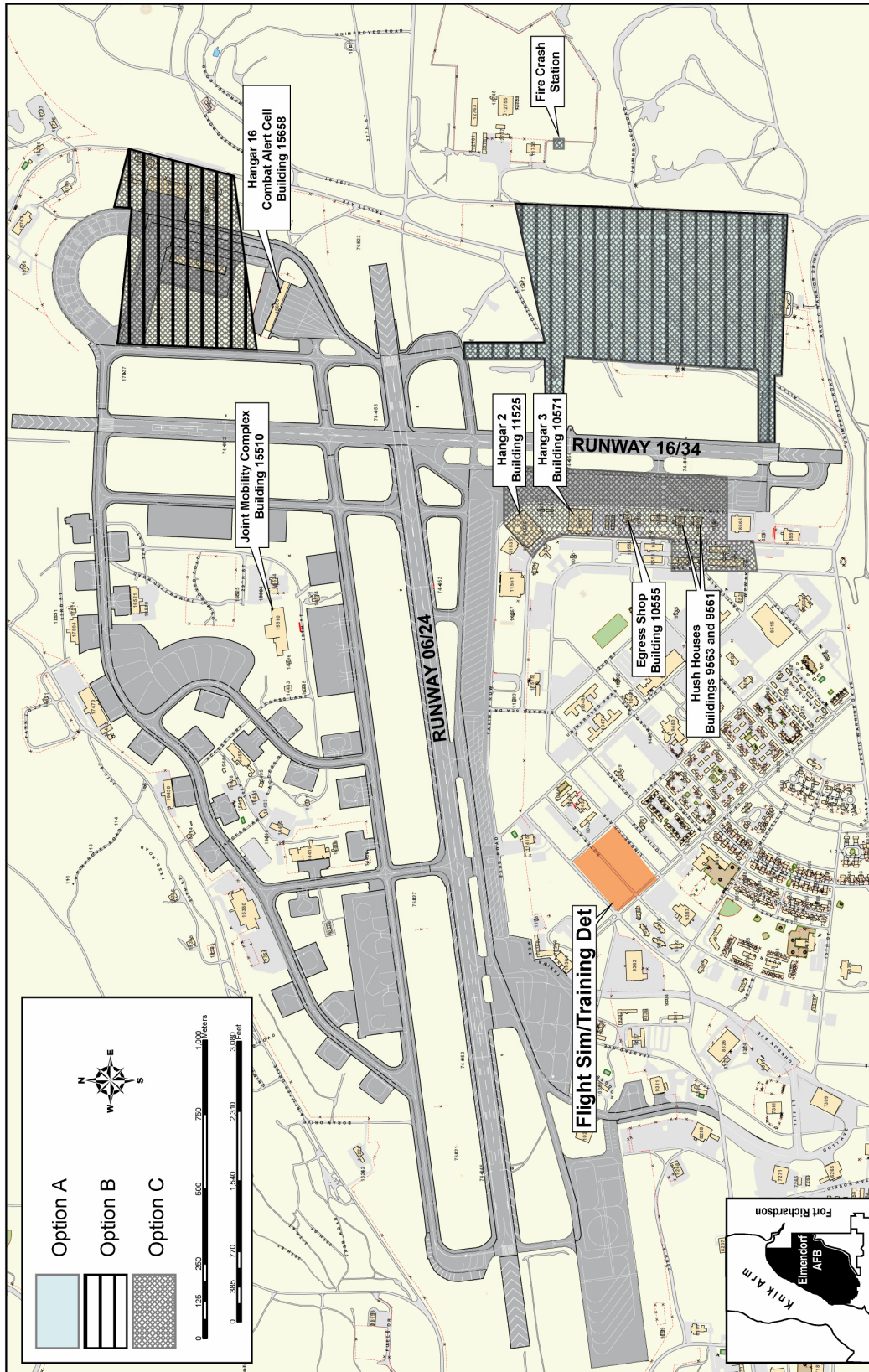


FIGURE ES-1. OPTIONAL DEVELOPMENT AREAS

The Proposed Action is to beddown an F-22A Operational Wing at Elmendorf AFB through one of three facility construction options.

- Option A includes the most new construction, with all facilities built in Fighter Town East (FTE) east of Runway 16/34 (see Figure ES-1). Option A construction is estimated to cost \$402 million.
- Option B would modify existing facilities northeast of Runway 06/24 and construct some new facilities in the FTE area and on the southeast portion of the base (see Figure ES-1). Option B is estimated to cost \$323 million. Implementing the Proposed Action using Option B is the Air Force's preferred alternative.
- Option C would modify existing facilities and split wing operations in three locations: the FTE area, northeast of Runway 06/24, and west of Runway 16/34. Option C is estimated to cost \$325 million. Under Option C, some F-22As would be parked in the runway clear zone (CZ).

The No Action Alternative would not locate an F-22A Operational Wing at Elmendorf AFB at this time. No Action would involve no construction for new fighter facilities, but could affect successful execution of Elmendorf AFB missions and the Base Realignment and Closure (BRAC) schedule for relocating one F-15C squadron and one F-15E squadron from Elmendorf AFB.

ENVIRONMENTAL CONSEQUENCES

The public and agency scoping process focused the analysis on the following environmental resources: airspace management and air traffic control (including airport traffic), noise, safety, air quality, physical resources, biological resources, cultural resources, land use, socioeconomics, and environmental justice.

PLEASE REFER TO
FIGURE 1.1-1 FOR
ELMENDORF AFB AND
FIGURE 1.1-2 FOR
ALASKAN AIRSPACE
DISCUSSIONS.

AIRSPACE MANAGEMENT AND AIR TRAFFIC CONTROL

Base. F-22A aircraft would use the base runways and fly in the base environs similarly to the way the comparably sized F-15C and F-15E aircraft do today. The Proposed Action would reduce fighter sorties by approximately 10 per day. Anchorage Alaska Terminal Area (ATA) management of airspace would not be affected by this change.

Airspace. F-22A aircraft would use the same airspace currently used for F-15C and F-15E training. The F-22A aircraft typically fly at higher altitudes and use MTRs less than the F-15Es. This could minimally reduce the number of low level military aircraft at altitudes where the majority of general aviation activity occurs. There would be no anticipated impacts to airspace management.

NOISE

Base. A segment of the port west of the base, and a portion of the Knik Arm would come under the 65 decibel (dB) contour. On base there would be increased noise in the northern portion of Elmendorf AFB and reduced noise in the western portion of Fort Richardson when compared with existing conditions. Off base noise would not be projected to significantly impact humans in the affected areas. Noise associated with construction would be localized, temporary, and have no long-term effect.

Airspace. Noise in military airspace is quantified by metrics called the Day-Night Average Sound Level (L_{dn}) and the Onset-Rate Adjusted Monthly Day-Night Average Sound Level (L_{dnmr}). Noise models account for the annoyance associated with the “surprise” effect of noise from high-speed military aircraft flying at low altitude or from sonic booms. No discernible difference in subsonic noise is projected in MOAs used for training. An increase in sonic booms, from the existing 15 to a projected 28 per month, would occur in the Stony MOAs. Other MOAs approved for supersonic training would have 1 to 4 additional sonic booms per month depending on the MOA. Currently there are 1 to 19 sonic booms per month in these MOAs. Noise levels would increase by less than 1 to 3 CDNL (C-weighted Day-Night Average Sound Level) in the Yukon, Stony, and Fox MOAs and by a noticeable 11.5 CDNL (from 33.6 to 45.1) under the Naknek MOA. The projected increase in sonic booms would not pose a health or other risk, but could increase annoyance.

SAFETY

Base. There will be no change in off base safety conditions, Bird-Aircraft Strike Hazard (BASH), munitions, or personnel safety. Elmendorf AFB aircraft ground safety would essentially remain the same with an F-22A beddown. Construction Options A and B lower the ground safety risk in that they remove fighter aircraft from parking in a runway CZ. Under Option C, some F-22As would park where F-15Cs currently park in the Runway 16/34 CZ.

Explosive safety includes the management and use of ordnance or munitions associated with airbase operations and training activities. The amount of munitions associated with the two F-22A squadrons is lower than the existing F-15E squadron. The number of chaff bundles and flares would be unchanged. Elmendorf AFB has the personnel and facilities to handle the munitions, chaff, and flares.

Airspace. There would be no substantive change in, or impacts to, flight, ground, or other safety aspects. Some reduced low-level flight by F-22A, as compared with F-15E, could minimally reduce military aircraft presence at general aviation altitudes. Improved situational awareness with F-22A systems facilitates see-and-avoid procedures.

F-15C and F-15E training aircraft currently use chaff and flares where approved in training airspace. After deployment of chaff or a flare, one to three 1-inch by 1-inch to 2-inch by 2-inch sized plastic or nylon pieces and one to three 2-inch by 4-inch mylar or 1-inch by 1-inch to 4-inch by 13-inch aluminum-coated mylar wrappings would fall to the ground. There is projected to be an increase in mylar pieces as a result of the chaff used by F-22A aircraft as compared with current F-15C and F-15E chaff. These plastic, nylon, or mylar pieces would not affect safety for human or biological resources under the airspace. There would be an overall reduction in use of training munitions at approved ranges. The F-22A stealth fighter does not have a fuel dump valve that could provide a radar signature and thus does not have the ability to dump fuel.

AIR QUALITY

Base. The Anchorage area is in air quality attainment for all criteria pollutants except for the community of Eagle River, which is located 10 miles northeast of Elmendorf AFB and is designated as nonattainment for particulate matter less than or equal to 10 micrometers in diameter (PM_{10}). A portion of Anchorage achieved attainment for carbon monoxide (CO) in 2002, and is currently operating under a maintenance plan to assure continued attainment with the standard. Elmendorf AFB is located adjacent to the northern boundary of this CO maintenance area. Elmendorf AFB is in attainment for all criteria pollutants. The anticipated

emissions resulting from each option of the Proposed Action have been analyzed and it has been determined that the emissions will not cause or contribute to a new National Ambient Air Quality Standards (NAAQS) violation. Furthermore, a conformity determination is not required as the emissions for all pollutants is below the *de minimis* threshold established by the U.S. Environmental Protection Agency (USEPA) in 40 Code of Federal Regulations (CFR) 93.153. Construction emissions would produce localized, short-term elevated air pollutant concentrations that would not significantly affect local air quality or visibility. No conformity determination is required. Aircraft engine emissions are projected to be minimally higher than at present, but improved efficiency and reduced on-site maintenance should result in no change in air quality within the Anchorage area.

Airspace. Areas under the training airspace are within air quality attainment. Of the primary MOAs, only operations within the Susitna MOA overlie a Prevention of Significant Deterioration (PSD) Class I area: a portion of the Denali National Park and Preserve, where visibility must be protected and preserved. Class I areas are areas where any appreciable deterioration of air quality is considered significant. Compared to existing fighter aircraft, F-22As spend more time at higher altitudes where these emissions would be dispersed and would not measurably affect air quality or visibility in any Class 1 area.

PHYSICAL RESOURCES

Base. Scoping comments expressed concern regarding potential consequences from erosion, sedimentation, storm water runoff, and toxic wastes. Construction of the F-22A facilities to support Option A would disturb approximately 50 acres in an area that was previously disturbed. Option B would disturb approximately 40 acres in two areas previously disturbed and Option C would disturb 30 acres in three areas previously disturbed. A remedial investigation/feasibility study for ERP site SS-22 could affect the location of the proposed Fire Crash Station. A construction National Pollutant Discharge Elimination System (NPDES) storm water permit and site-specific Storm Water Pollution Prevention Plan (SWPPP) would be required to describe the best management practices (BMPs) to eliminate or reduce sediment and non-storm water discharges. Impacts from erosion and off-site sedimentation would be negligible.

Under any option, new hazardous materials associated with aircraft coatings will be handled within a new maintenance facility. Hazardous materials and construction debris generated by the proposed project would be handled, stored, and disposed of in accordance with federal state and local regulations and laws. No significant effects are anticipated on earth or water resources, hazardous materials, hazardous wastes, or the Environmental Restoration Program (ERP).

Airspace. The F-22A beddown would not substantially change airspace use or training above physical resources. The only potential variation in physical effects to the airspace is the mylar wrapping from the F-22A chaff. Chaff consists of fine segments (thinner than a human hair) of aluminum-coated silica cut to lengths of 1/2 to 2 or more inches to reflect radar signals from threats to aircraft. For the F-22A, each bundle of chaff has three 2-inch by 4-inch mylar pieces. Chaff rapidly breaks up to become indistinguishable from native soils and would not produce a significant effect upon water or soils under the airspace. Plastic or mylar pieces that fall to the ground as a result of chaff or flare deployment would not be in concentrations that could affect soils or water resources. The number of defensive flares is essentially unchanged from current flare usage. Flare use altitude restrictions would remain in effect.

BIOLOGICAL RESOURCES

Base. Scoping concerns for biological resources include habitat loss due to construction of new facilities, potential consequences to endangered and threatened species, noise associated with construction, and noise associated with F-22A operation and maintenance. Concerns for species near Elmendorf AFB include noise and potential run-off to water resources from construction or operation.

Under the Proposed Action, each beddown option would affect varying amounts of wildlife habitat in the southeast portion of the base. The FTE construction site includes removing a stand of 50 to 60 year old second growth trees which provides habitat for migratory songbirds and mammals. Five special-status bird species may occur at Elmendorf AFB, but only the olive-sided flycatcher and blackpoll warbler occur in the affected area. Clearing this marginal habitat during breeding season could disrupt some nesting birds.

Fugitive dust and soil erosion would be controlled via BMPs, or as in the case of hazardous materials associated with F-22A stealth coatings, incapsulation within newly constructed buildings to protect water resources. Noise contours associated with the proposed operation of the F-22As extend into the Knik Arm of Cook Inlet, where beluga whales occur. Reports indicate that beluga responses to aircraft included no response and diving. Based on the literature review of noise effects on marine mammals, noise associated with F-22A operations would not be expected to adversely affect beluga whales.

Airspace. Subsonic noise would essentially be the same as under current conditions. There would be no change in effects to wildlife. Increases in sonic booms under some airspace units may startle some animals. However, wildlife in the affected MOAs have previously experienced sonic booms and are likely habituated. Chaff and flare use would not be expected to adversely affect biological resources. The mylar pieces from F-22A chaff are not substantively different from the aluminum-coated mylar wrapping currently associated with flare use.

CULTURAL RESOURCES

Base. The Proposed Action could affect on-base properties. Under Option A, three possible historic structures on Elmendorf AFB would be demolished or renovated: the Sentry Gate House (Building 9637) and Ammunition Storage Igloo (Building 10641) were both constructed in 1962 and the Egress Shop (Building 10555) was constructed in 1963. Under Option B, one additional possible historic structure would be renovated, Hangar 15 (Building 16716, constructed in 1956). Option C demolishes or renovates the same structures plus renovates Hangars 2 and 3, constructed in 1945 and located within the Flightline Historic District. Any structure proposed for demolition or exterior renovation would need to be evaluated for National Register of Historic Places (NRHP) eligibility prior to the construction or exterior renovation. If any structure is found to be potentially eligible, consultation with the State Historic Preservation Officer (SHPO) would be required prior to demolition or renovation.

The Air Force has consulted with the Alaska SHPO, following the guidelines stipulated in the Elmendorf AFB Integrated Cultural Resources Management Plan and the Draft Programmatic Agreement. While there are no recorded archaeological resources in the areas of the proposed development, and the areas have been previously disturbed during Elmendorf AFB's history, subsurface archaeological resources could exist in construction areas.

Airspace. There would be no impacts to historic properties under the airspace. The increase in sonic booms have the potential to disturb some Alaska Native users of land, but would not be expected to affect subsistence hunting.

LAND USE

Base. The Proposed Action Options A or B would be consistent with the Base General Plan. Option C varies from the Base General Plan's Focus Area concept, but is consistent with the functional grouping of land uses. Under any option, some increases in noise levels are anticipated over land on the north portion of the base and some decrease in noise would occur over the west portion of Fort Richardson. Noise levels outside the 65 dB contour are not considered significant by the Federal Aviation Administration (FAA). The 65 dB contour would extend over a portion of the Port of Anchorage, Port MacKenzie, and Knik Arm. Noise levels would be consistent with land uses in those areas.

Under any option, there would be no changes to the safety zones. A decrease in on-base employment is expected and is likely to reduce vehicle trips in the long term. Increased commuter traffic during construction (2007 to 2010) would contribute to increased congestion at gates and in the processing of access passes.

Airspace. Increased sonic booms would occur in some recreational, hunting, or fishing areas. Individuals who live under or spend extensive time subsistence hunting and fishing, especially under the Stony MOAs, could discern an increase from the existing 15 to a projected 28 booms per month toward the center of the airspace. The increased frequency of sonic booms would not be expected to affect land use or land use patterns, ownership, or management, but the increase has the potential to cause additional disturbance to residents and long-term users of the lands under the affected airspace.

SOCIOECONOMICS

Base. Under Option A, potential direct impacts are estimated to include 1,649 construction jobs over the construction period and \$89 million in direct earnings. The total socioeconomic impact of the proposed \$402 million construction projects amount to an estimated regional economic stimulation of \$497 million in total economic activity and generate 4,030 total jobs and total earnings of \$156 million.

Under Option B, potential direct impacts are estimated to include 1,526 construction jobs over the construction period and \$82 million in direct earnings. The total socioeconomic impact of the proposed \$323 million construction projects amount to an estimated regional economic stimulation of \$473 million in total economic activity and generate 3,230 total jobs and total earnings of \$125 million.

Under Option C, potential direct impacts are estimated to include 1,536 construction jobs over the construction period and \$83 million in direct earnings. The total socioeconomic impact of the proposed \$325 million construction projects amount to an estimated regional economic stimulation of \$476 million in total economic activity and generate 3,250 total jobs and total earnings of \$126 million.

Under any option, 10 percent of the needed workforce may temporarily relocate and take up residency in the region, resulting in a 0.1 percent population increase, potentially affecting the demand for housing or community services, such as schools. These potential effects would be

temporary for the duration of the construction period. No permanent or long-lasting socioeconomic impacts are associated with the beddown construction options.

Under any construction option, total Elmendorf AFB personnel would be reduced by a net of 669 positions, comprised of a reduction in 36 officers and 759 enlisted personnel, partially offset by an addition of 126 civilian positions. It is estimated that 70 percent of departing military personnel would have family members. Based on the average family size of active duty personnel at Elmendorf AFB, an estimated 703 dependents would depart, for a total anticipated population decline of 1,372 persons. A decrease of this size represents 7.4 percent of the Elmendorf AFB base-related population and 0.5 percent of the Anchorage population. This would represent less than 0.7 percent of housing in the Municipality of Anchorage. The estimated reduction in payroll of \$40.4 million (associated with the 669 reduced base positions) would reduce secondary employment within the community by an estimated 223 positions. In the dynamic Anchorage community, this change in employment or population is not likely to be noticed.

Airspace. There would be no discernible effects on social or economic conditions under the airspace. The projected increase in sonic booms, particularly under the Stony MOAs, may be discernible to individuals participating in subsistence or recreational hunting or fishing. This would not be expected to significantly affect activities under the airspace or local economies that rely on subsistence resources. For any damage claims associated with sonic booms, the Air Force has established procedures that begin with contacting the Elmendorf AFB Public Affairs Office.

ENVIRONMENTAL JUSTICE

Base. Federal agencies are required by law to address potential impacts of their actions on environmental and human health conditions in minority and low-income communities. Furthermore, they must identify and assess environmental health and safety risks that may disproportionately affect children. There would be no human health or safety consequences to minority or low-income communities and no disproportionate health and safety risks to children.

Airspace. High concentrations of Alaska Natives who live under the airspace are representative of rural populations throughout the state. Persons living under the airspace, particularly the Stony MOAs, could notice or be disturbed by increased sonic booms. This change in sonic boom activity would not be expected to damage health or other environmental resources. No disproportionately high or adverse impacts to minority or low-income communities would result from F-22A beddown or training. There would be no disproportionate health and safety risks to children.

CUMULATIVE CONSEQUENCES

Base. Cumulative effects analysis considers the potential environmental consequences resulting from “the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such actions” (40 CFR 1508.7). Multiple federal and non-federal projects near the base and airspace were identified and evaluated to see whether cumulative impacts could occur. The analysis throughout the EA incorporates the cumulative effect of the BRAC decision to relocate one squadron of F-15C and one squadron of F-15E aircraft. The beddown of C-17 aircraft, BRAC decisions regarding C-130 aircraft, proposed transportation projects, and other

projects were cumulatively evaluated. No significant environmental consequences result from reasonably foreseeable projects that could cumulatively affect environmental resources in conjunction with the beddown of the F-22A Operational Wing.

Airspace. The airspace discussion throughout the document cumulatively incorporates the BRAC decision to relocate one squadron of F-15C and one squadron of F-15E aircraft from Elmendorf AFB. There is no cumulative effect associated with MTR improvements because the F-22A aircraft would use the MTRs less than one-half the level of existing F-15E use. Schedules for the potential natural gas pipelines under portions of the airspace were evaluated to determine whether construction schedules overlapped. No significant cumulative environmental consequences would result from reasonably foreseeable projects under the training airspace.

